



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,001	03/17/2000	Shiri Kadambi	P108339-00003	3385
32294	7590	08/08/2005	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P.			HOANG, THAI D	
14TH FLOOR			ART UNIT	
8000 TOWERS CRESCENT			PAPER NUMBER	
TYSONS CORNER, VA 22182			2667	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

88

Office Action Summary	Application No.	Applicant(s)	
	09/528,001	KADAMBI ET AL.	
	Examiner	Art Unit	
	Thai D. Hoang	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2 and 7 are rejected under 35 U.S.C. 102(a) as being unpatentable over Muller et al, US patent No. 5,909,686, hereafter referred to as Muller.

Regarding claims 1 and 7, Muller discloses a network switch stack configuration, which comprises a plurality of switching elements 100, wherein each of elements 100 comprises a plurality of data ports located at network interface 205, a plurality of stacking ports located at a cascading interface 225 for connecting the switching 100 with other switches, and a CPU interface 215; see figures 1-2; col. 3, lines 39-41; col. 4, lines 38-43 (a first network switch comprising a plurality of data ports, a first stacking port, a first internet port interface controller, and a first CPU interface; a second network switch having a plurality of data ports, a second stacking port, a second internet port interface controller and a second CPU interface). In addition, Muller teaches that the network comprises a common CPU 161 connected to each of the interfaces 215 of the switching elements 100 (a common CPU connected to said first CPU interface and said second CPU interface). Muller discloses that the switching elements 100 of subsystems 110 are interconnected to form of cascading as shown in figure 1 by using a number of links 141. Therefore, it indicates that incoming data packets are transmitted/received

Art Unit: 2667

from one of the data ports of the switching element 100 to/from any of the data ports of another switching element 100 through the interfaces 225; figures 1-2; col. 4, lines 1-5, 44-57; col. 5, lines 10-21; col. 6, lines 6-30 (the first stacking port and the second stacking port are communicatively connected through said first and second internet port interface controller, such that incoming packets on any of the plurality of data ports on the first and second switches can be effectively switched to any of the plurality of data ports on either of the first and second network switches.) Since switches in the Muller's system are packet switches; therefore, each of the switch elements 100 in the system shown in figure 1 inherently add to each of the incoming data packets a header, which comprises a plurality of header fields, for routing the data packets to a destination; and read the headers to determine egress port according to the information of the headers; col. 13, lines 9-22.

Regarding claim 2, Muller teaches that a central processing system (CPS) 160 that is coupled to the individual subsystem 110 through a communication bus 151. The CPS 160 has a direct control and communication interface to each subsystem 110 and provides some centralized communication and control between switch elements; col. 4, lines 24-34. Furthermore, Muller discloses that the CPU 161 may transmit commands or packets to the network switch element 100 via the CPU interface 215. In this manner, one or more software processes running on the CPU 161 may manage entries in an external forwarding and filtering database 140. It indicates that the CPU 161 is configured to program functions on the switching elements, and controls communication between switching elements (common CPU is configured to program functions on the

Art Unit: 2667

first and second network switch, and wherein the common CPU controls communication between the first and second network switch.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al, US patent No. 5,909,686, in view of Muller et al, US Patent No. 6,119,196, hereafter referred to as 686 and 196.

Regarding claims 3-5, 686 teaches that the switching elements 100 are interconnect in form of stack through interfaces 205 and 225 connected by a plurality of links 141. 686 does not teach that the cascading interface 225 includes an arbiter for allocating communication bandwidth between the first and second stacking port, and a flow control logic for controlling data flow to and from each of the first and second network switches. However, 196 teaches that a switch 100 comprises a cascading interface 108 connected with a shared memory manager 110 including a buffer memory controller (BMC) 112; see fig. 1. The BMC 112 comprises an arbiter 210 and an arbiter/scheduler 214 (see fig. 2) in order to allocate bandwidth and control data rate for fast ports 222 and slow ports 202. Therefore, it implies that the BMC 112 performs the functions as recited in claims 3-5. However, 196 does not teach that the BMC 112

Art Unit: 2667

located at the interfaces 106 and 108. See *In re Japikse*, 86 USPQ 70 (CCPA 1950). It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the bandwidth allocating method disclosed by 196 into 686's system for utilizing the bandwidth of the system in order to maximize data transmission through the system.

Regarding claim 6, 686 does not disclose that the system forwards data packets to the egress ports without requiring a lookup in an address table. However, 196 discloses that the system comprises arbiters to determine output port based on an access request of the data packets, abstract, figs. 2-4; col. 1, line 57 – col. 2, line 6; col. 3, line 46 – col. 4, line 31. Therefore, it indicates that the system does not comprise a lookup table to determine output ports for the data packets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the method disclosed by 196 into 686's system in order to simplify for reducing the cost of the system.

Response to Arguments

Applicant's arguments filed 4/29/2005 have been fully considered but they are not persuasive.

Regarding claims 1 and 7, page 7-10 of the remarks, Applicants argue that Muller I does not disclose or suggest "the first stacking port and the second stacking port are communicatively connected through said first and second internet port interface controllers, such that incoming packets on any of the plurality of data ports on the first

Art Unit: 2667

and second switches are effectively switched to any of the plurality of data ports on either of the first and second network switches” as recited in claim 1, and Muller I does not disclose or suggest “switching said incoming packets to said egress ports via at least interface controller” as recited in claim 7. Examiner respectfully disagrees. Muller discloses a network switch stack configuration, which comprises a plurality of switching elements 100, wherein each of elements 100 comprises a plurality of data ports located at network interface 205, a plurality of stacking ports located at a cascading interface 225 for connecting the switching 100 with other switches; see figures 1-2; col. 3, lines 39-41; col. 4, lines 38-43. Furthermore, Muller discloses that the switching elements 100 of subsystems 110 are interconnected through cascading interfaces 225 to form of cascading as shown in figure 1 by using a number of links 141. Therefore, it indicates that incoming data packets are transmitted/received from one of the data ports of the switching element 100 to/from any of the data ports of another switching element 100 through the interfaces 225; figures 1-2; col. 4, lines 1-5, 44-57; col. 5, lines 10-21; col. 6, lines 6-30. Therefore, Muller clearly teaches features as recited in claims 1 and 7.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2667

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2667 8/5/05